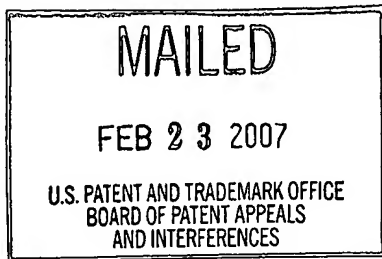


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES



Ex parte GREGORY HACKMAN,
JENNIFER BRAUN,
DONALD J. DALE and
DAVID BLAIR MORRIS

Appeal 2006-3201
Application 10/689,951

HEARD: January 11, 2007

Before OWENS, CRAWFORD, and GROSS, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION

The appellants appeal from a rejection of claims 1-14, which are all of the pending claims.

THE INVENTION

The appellants claim an apparatus and method for cryogenic fluid distribution. Claim 1 is illustrative:

1. A cryogenic fluid distribution device, comprising:

a fluid flow passage for distributing cryogenic fluid to an apparatus;

an overflow passage positioned downstream of the apparatus; and

a sensor coupled to the overflow passage, the sensor having an active component for determining if fluid is present in the overflow passage.

THE REFERENCES

Maric	5,142,874	Sep. 1, 1992
McCulloch et al. (McCulloch)	6,016,697	Jan. 25, 2000
Sillat ¹ (German patent)	44 20 621 A1	Dec. 22, 1994

THE REJECTIONS

The claims stand rejected as follows: claims 1, 6-11, 13 and 14 under 35 U.S.C. § 102(b) as anticipated by Sillat; claims 2 and 12 under 35 U.S.C. § 103 as obvious over Sillat in view of McCulloch; claims 3 and 4 under 35 U.S.C. § 103 as obvious over Sillat in view of Maric; and claim 5 under 35 U.S.C. § 103 as obvious over Sillat in view of Maric and McCulloch.

OPINION

We affirm the rejection of claims 1 and 6-11 and reverse the rejections of claims 2-5 and 12-14.

¹Citations herein to Sillat are to the English translation thereof which is of record.

Claims 1 and 6-11

The appellants argue claims 1 and 6-11 as a group (brief, pages 7-9). We therefore limit our discussion to one claim in that group, i.e., claim 1. See 37 CFR § 41.37(c)(1)(vii)(2004).

Sillat discloses a method for protecting against overflow of a container being filled with a cryogenic medium (page 1). The cryogenic medium is fed to the container through line 6, and gaseous medium displaced from the container exits through line 10 that contains, as a sensor, vapor pressure contact manometer 12 (page 4). Pneumatic energy D is fed to control unit K, and the outputs of the control unit are pneumatic line B and line C that can be either a pneumatic line or an electric line (page 4). Line C goes to pneumatic or electric contact manometer P3 in line 13 which is between manometer 12 and a valve (14) (page 4). Both line 13 and manometer 12 are filled with neon (page 4). When the container is overfilled, liquid entering line 10 causes a temperature drop in the sensor of manometer 12 that results in condensation of the sensor medium in that manometer (page 4). The condensation causes a pressure drop in line 13 that is measured by manometer P3 (page 4). Manometer P3 then signals control unit K to stop the inlet flow of cryogenic medium (page 4).

The appellants argue that Sillat's manometer 12 is not an active component because it is simply a vessel filled with a gas such as neon that condenses when surrounded by cryogenic liquid (brief, pages 7-9). The appellants' specification does not define the term "active". The common meanings of "active" include "productive of action or movement"². The condensation produced in manometer 12 is an action or movement. Hence, we are not convinced by the appellants' argument that "active component" in claim 1 excludes Sillat's manometer 12.

The appellants argue that Sillat's manometer 12 is not pneumatically connected to controller K (brief, page 8). We do not find in the appellants' claim 1 any limitation that requires Sillat's manometer 12 to be pneumatically connected to that controller.

The appellants argue that Sillat's only potentially active component used in connection with the bypass line is manometer P3 which is not in bypass line 10 (brief, page 8). The appellants' claim 1 does not require Sillat's sensor to be in line 10. The claim merely requires that the sensor is

² Webster's New Collegiate Dictionary 12 (G. & C. Merriam 1973).

"coupled to the overflow passage". Sillat's manometer P3 is operatively coupled to overflow line 10.³

The appellants argue that Sillat's line 10 is not a fluid flow passage for distribution of cryogenic fluid (brief, page 8). The appellants' claim 1 requires a sensor coupled to the overflow passage, not to the fluid flow passage. There is no requirement in that claim that Sillat's line 10 be a fluid flow passage for distribution of cryogenic fluid.

For the above reasons we are not convinced of reversible error in the examiner's rejection of claims 1 and 6-11.

Claims 13 and 14

Claim 13, which depends from claim 11, requires a sensor that is coupled to an overflow passage and has 1) an active component configured for determining if cryogenic liquid is present in the overflow passage, 2) a sensor body configured to define a fluid flow path through the sensor body, and 3) a recess opening into the fluid flow path.

The examiner does not point out where Sillat discloses a sensor having a recess opening into a fluid flow path. Thus, the examiner has not established a prima facie case of

³Moreover, Sillat's manometer P3 and controller K, in combination, are operatively coupled as an active component to line 10 (figure 1).

anticipation of the invention claimed in the appellants' claim 13 and its dependent claim 14.

Claims 2 and 12

Claims 2 and 12 require that the active component is a light emitting diode.

McCulloch discloses a capacitive level sensor for a cryogenic tank (100) (col. 1, lines 6-9; col. 5, line 8). The capacitances are read by a controller having on its display panel light emitting diodes that indicate the status of control and alarm setpoints such as high level and low level (col. 7, line 47 - col. 8, line 7).

The examiner argues that it would have been obvious to one of ordinary skill in the art to use McCulloch's light emitting diode in Sillat's system to act as an active component for determining the presence of fluid (answer, pages 3-4). The appellants' claims require that the active component is a component of a sensor, whereas McCulloch's light emitting diode is a component of a display panel. The examiner has not explained how a disclosure of a light emitting diode on a display panel would have led one of ordinary skill in the art to use the light emitting diode as an active component of any sensor, let alone Sillat's manometers.

The examiner, therefore, has not established a prima facie case of obviousness of the inventions claimed in the appellants' claims 2 and 12.

Claims 3 and 4

Maric discloses a cryogenic apparatus including a heat exchanger coil (22) that passes into, through, and out of a vessel (12). The heat exchanger coil includes, outside the point where it exits the vessel, a temperature sensor (70) inserted into a hole that intersects the coil's flow passage of heat exchange medium (figure 1). The temperature sensor measures the temperature of condensate produced in the heat exchanger coil from vapor that has been condensed by heat exchange with the cryogenic fluid (col. 5, lines 66-68; col. 6, lines 20-28 and 41-42).

The examiner argues that it would have been obvious to one of ordinary skill in the art to use Maric's hole intersecting a fluid passage in Sillat's sensor to act as an active component for determining fluid temperature (answer, page 4). Maric's hole intersecting a fluid passage is not in a cryogenic fluid line but, rather, is in a heat exchanger coil condensate line (col. 6, lines 41-42). The examiner has not explained how Maric's disclosure would have led one of ordinary skill in the art to use Maric's hole intersecting a fluid passage in

combination with or as a replacement for the manometer in Sillat's cryogenic fluid line.

Thus, the examiner has not established a prima facie case of obviousness of the inventions claimed in the appellants' claims 3 and 4.

Claim 5

Claim 5 depends from claim 4 and requires that the active component is a light emitting diode. As discussed above, the examiner has not established that McCullough would have fairly suggested, to one of ordinary skill in the art, using a light emitting diode as an active component in Sillat's method. Also, the examiner does not rely upon McCullough for any disclosure that remedies the above-discussed deficiency in Sillat and Maric as to claim 4 from which claim 5 depends.

The examiner, therefore, has not established a prima facie case of obviousness of the invention claimed in the appellants' claim 5.

DECISION

The rejection of claims 1 and 6-11, 13 and 14 under 35 U.S.C. § 102(b) over Sillat is affirmed as to claims 1 and 6-11 and reversed as to claims 13 and 14. The rejections under 35 U.S.C. § 103 of claims 2 and 12 over Sillat in view of McCulloch, claims 3 and 4 over Sillat in view of Maric, and

claim 5 over Sillat in view of Maric and McCulloch, are reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (effective Sept. 13, 2004).

AFFIRMED-IN-PART

Terry J. Owens)
Terry J. Owens)
Administrative Patent Judge)

Murriel E. Crawford)
Murriel E. Crawford)
Administrative Patent Judge) BOARD OF PATENT
APPEALS AND

Anita Pellman Gross)
Anita Pellman Gross) INTERFERENCES
Administrative Patent Judge)

Appeal 2006-3201
Application 10/689,951

Hardness, Dickey & Pierce, P.L.C.
P. O. Box 8910
Reston, VA 20195

TJO/jrg